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1<sup>ST</sup> SEM. 2018/2019

**UNIVERSITY OF ESWATINI**

**RE-SIT/SUPPLEMENTARY EXAMINATION PAPER**

**PROGRAMME:** B. Sc. AGRON.; B.Sc. ANIMAL SCIENCE;  
B.Sc. HORT.; B.Sc. FSNT II. AND B.Sc.  
TADAM II

**COURSE CODE:** AS 202/ASC 203

**TITLE OF PAPER:** BIOCHEMISTRY

**TIME ALLOWED:** TWO (2) HOURS

**INSTRUCTIONS:** ANSWER ANY 4 QUESTIONS.

**THIS PAPER SHOULD NOT BE OPENED UNTIL THE CHIEF  
INVIGILATOR HAS GRANTED PERMISSION.**

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**QUESTION 1**

Explain and illustrate the following:

- a. Production of D-Ribose from D-Glucose
- b. Cynogenic glucosides

(17 Marks)

(8 Marks)

**QUESTION 2**

Discuss and illustrate the enolisation of Glucose to its primary tautomer and epimer in grass silages

(25 Marks)

**QUESTION 3**

Using structures to illustrate you answers, write short notes about:

- a. Saccharose and Maltose type sugars
- b. Essential amino acids
- c. Deoxy nucleotides
- d. Steroid hormones
- e. Water soluble vitamins

(5 Marks)

(5 Marks)

(5 Marks)

(5 Marks)

(5 Marks)

**QUESTION 4**

Compare and contrast the following:

- a. Phospholipids and lipoproteins
- b. RNA and DNA
- c. *Trans* and *cis* fatty acids
- d. Reversible and irreversible enzyme inhibitors
- e. Polar and non-polar amino acids

(6 Marks)

(8 Marks)

(3 Marks)

(4 Marks)

(4 Marks)

**QUESTION 5**

- a. Briefly discuss the biosynthesis of sulphur containing amino acids in plants and bacteria.
- b. Briefly describe and illustrate transamination in the animal body

(15 Marks)

(10 Marks)